

Installation for the wet-treatment of laundry, and seal
for such an installation

Claims:

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1. An installation for the wet-treatment of laundry, having an at least partially liquid-permeable inner drum which can be driven in circulation and in which there are formed successive treatment chambers through which the laundry can be directed during the wet-treatment, and having a liquid-tight outer drum which encloses the inner drum at least in certain regions and is formed from outer-drum sections each extending over one treatment chamber, wherein the outer-drum sections (24) are enclosed, on their end sides (25), by seals (33, 34), which can be rotated in relation to the outer-drum sections (24).
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2. The installation as claimed in claim 1, wherein the seals (33, 34) have at least one cylindrical sealing section (35, 40) and a transversely directed sealing means.
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3. The installation as claimed in claim 1, wherein at least one seal (34) between spaced-apart, mutually facing end sides (25) of adjacent outer-drum sections (24) have a cylindrical section (39) with sealing sections (40) at opposite ends, each of the two sealing sections (40) butting with sealing action from the outside against a border section (28) extending from each end side (25) of the outer-drum section (24).
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4. The installation as claimed in claim 1, wherein arranged between the sealing sections (40) of the seals (34) is a central section (41), which is located between the spaced-apart end sides (25) of two adjacent outer-drum sections (24), the sealing
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sections (40) and the central section (41), in a continuous formation, forming the cylindrical section (39).

5 5. The installation as claimed in claim 4, wherein the sealing means is arranged integrally on the central section (41) and is directed radially inward in relation to the cylindrical central section (41).

10 6. The installation as claimed in claim 1, wherein the sealing means of each seal (33, 34) is designed as a single sealing lip (36, 42).

15 7. The installation as claimed in claim 1, wherein the seals (33, 34) are fastened on the outer-drum sections (24) by tensioning means.

20 8. The installation as claimed in claim 7, wherein each seal (33, 34), on at least part of its sealing section (35, 40), is connected with sealing action to the corresponding border section (28) of the outer-drum section (24) by a tensioning means.

25 9. The installation as claimed in claim 7, wherein the tensioning means is designed as a tensioning strap (45) which encloses the respective cylindrical sealing section all the way round.

30 10. The installation as claimed in claim 9, wherein the tensioning strap (45) encloses the respective cylindrical sealing section (35, 40) from the outside and tightens the sealing section (35, 40) 35 with sealing action against the outside of the cylindrical casing of the respective outer-drum section (24).

11. The installation as claimed in claim 9, wherein,

before being embraced by the respective tensioning strap (45), the respective seal (33, 34) can be displaced in the axial direction of the outer-drum section (24) such that the sealing lips (36, 42) butts, with elastic prestressing, against a sealing surface of the inner drum (11).

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12. The installation as claimed in claim 1, wherein, on a free end side of an outer-drum section (24) which does not have any adjacent outer-drum section (24) located opposite it, the seal has a sealing lip (36) which can preferably be forced against the corresponding sealing surface (wall surface 38, 44) of the corresponding round panel (20) of the inner drum (11) by the liquid between the inner drum (11) and the outer drum (22).

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13. The installation as claimed in claim 1, wherein, at a distance from each end side (25), the outer-drum sections (24) have an outer annular flange (27), which is preferably located at a small distance from, and alongside, the sealing section (35, 40) of the respective seal (33, 34), adjacent annular flanges (27) of in each case two successive outer-drum sections (24) being connected to one another.

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14. The installation as claimed in claim 13, wherein the annular flanges (27) of adjacent outer-drum sections (24) are connected by spacers.

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15. An installation for the wet-treatment of laundry, having an at least partially liquid-permeable inner drum which can be driven in circulation and in which there are formed successive treatment chambers through which the laundry can be directed during the wet-treatment, and having a liquid-tight outer drum which encloses the inner drum at least in certain regions and is formed from outer-

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drum sections each extending over one treatment chamber, wherein the outer-drum sections (24) have cylindrical casing surfaces, and seals (33, 34) are assigned directly to cylindrical end border sections (28) of said cylindrical casing surfaces.

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16. The installation as claimed in claim 15, wherein the seals (33, 34) have at least one cylindrical sealing section (35, 40) and a transversely directed sealing means.

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17. The installation as claimed in claim 15, wherein at least one seal (34) between spaced-apart, mutually facing end sides (25) of adjacent outer-drum sections (24) have a cylindrical section (39) with sealing sections (40) at opposite ends, each of the two sealing sections (40) butting with sealing action from the outside against a border section (28) extending from each end side (25) of the outer-drum section (24).

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18. The installation as claimed in claim 15, wherein arranged between the sealing sections (40) of the seals (34) is a central section (41), which is located between the spaced-apart end sides (25) of two adjacent outer-drum sections (24), the sealing sections (40) and the central section (41), in a continuous formation, forming the cylindrical section (39).

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19. The installation as claimed in claim 18, wherein the sealing means is arranged integrally on the central section (41) and is directed radially inward in relation to the cylindrical central section (41).

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20. The installation as claimed in claim 15, wherein the sealing means of each seal (33, 34) is designed as a single sealing lip (36, 42).

21. The installation as claimed in claim 1, wherein
the seals (33, 34) are fastened on the outer-drum
sections (24) by tensioning means.

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22. The installation as claimed in claim 21, wherein
each seal (33, 34), on at least part of its
sealing section (35, 40), is connected with
sealing action to the corresponding border section
10 (28) of the outer-drum section (24) by a tension
means.

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23. The installation as claimed in claim 21, wherein
the tensioning means is designed as a tensioning
strap (45) which encloses the respective
cylindrical sealing section all the way round.

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24. The installation as claimed in claim 23, wherein
the tensioning strap (45) encloses the respective
cylindrical sealing section (35, 40) from the
outside and tightens the sealing section (35, 40)
with sealing action against the outside of the
cylindrical casing of the respective outer-drum
section (24).

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25. The installation as claimed in claim 23, wherein
before being embraced by the respective tensioning
strap (45), the respective seal (33, 34) can be
displaced in the axial direction of the outer-drum
30 section (24) such that the sealing lips (36, 42)
butts, with elastic prestressing, against a
sealing surface of the inner drum (11).

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26. The installation as claimed in claim 15, wherein,
on a free end side of an outer-drum section (24)
which does not have any adjacent outer-drum
section (24) located opposite it, the seal has a
sealing lip (36).

27. The installation as claimed in claim 15, wherein,
at a distance from each end side (25), the outer-
drum sections (24) have an outer annular flange
(27), which is preferably located at a small
5 distance from, and alongside, the sealing section
(35, 40) of the respective seal (33, 34), adjacent
annular flanges (27) of in each case two
successive outer-drum sections (24) being
connected to one another.

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28. The installation as claimed in claim 27, wherein
the annular flanges (27) of adjacent outer-drum
sections (24) are connected by spacers.

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29. A seal for arranging between outer-drum sections
of an outer drum of a washing machine which has an
inner drum which can be driven in rotation and has
successive treatment chambers, which comprises at
least one cylindrical sealing section (35, 40) for
butting against the outside of a cylindrical
casing of a corresponding outer-drum section (24)
and an elastically deformable sealing means for
sealing the respective treatment chamber (13) of
the inner drum (11) on one side.

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30. The seal as claimed in claim 29, wherein there is
provided a cylindrical section (39) which has in
each case one sealing section (40) at opposite
ends and a central section (41) between the
sealing sections (40).

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31. The seal as claimed in claim 29, wherein a single
deformable sealing means is provided in each case,
this being designed as a sealing lip (36, 42)
35 which is connected integrally to the sealing
section (35).

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32. The seal as claimed in claim 29, wherein a single
deformable sealing means is provided in each case,

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this being designed as a sealing lip (36, 42) which is connected integrally to the central section (41).

List of designations:

- 10 Continuous washing machine
- 11 Inner drum
- 12 Longitudinal center axis
- 13 Treatment chamber
- 14 Treatment direction
- 15 Introduction end
- 16 Introduction hopper
- 17 Discharge end
- 18 Discharge chute
- 19 Drum section
- 20 Disk plate
- 21 Annular section
- 22 Outer drum
- 23 Accommodating space
- 24 Outer-drum section
- 25 End side
- 26 Interspace
- 27 Annular flange
- 28 Border section
- 29 Screw-connection
- 30 Spacer sleeve
- 31 Bolt
- 32 Nut
- 33 Seal
- 34 Seal
- 35 Sealing section
- 36 Sealing lip
- 37 Sealing edge
- 38 Wall surface
- 39 Cylindrical section
- 40 Sealing section
- 41 Central section
- 42 Sealing lip
- 43 Sealing edge
- 44 Wall surface
- 45 Tensioning strap